

Work Order ID 61480

September 1, 2010 1:31:47 PM



Page 1

Item ID: D206-642-545

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube

Start Date: 8/26/10 Start Qty: 1.00



Cust Item ID:

Required Date: 9/06/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: 

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3274

Rev D

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-545 CHG00 2

10-10-04

①

B61480

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Customer:

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Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Fabricate as per Dwg: D3274-043.

2- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd end tube with saw table setup D3274

3- Remove fwd indexing ridge as per dwg D3274 and prepare for welding

4 -Weld Fwd Cap as per Dwg D3274 and QSI004. Use aluminum rod.
A/R Aluminum Rod

5- Grind welds flush to Fwd cap on top surface only.

6- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

7- Drill Aft cap pilot hole using DT8025

8 -Cleco DT8025 in position and install pilot hole drill Jig DT8891. Drill 3/16" pilot holes as per Dwg D3274

9- Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch#

10- Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

> DP 10-9-1

SAD 10-09-01 ①

BC 10/09/01

DP 10-9-01

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

10-9-8

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 - BE 10-9-8

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Customer:

Reference:

Run Start

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015.

A/R ☐ Sikaflex-291 ☐ 11/5/14 ☐

Sikaflex expire date: ☐ 11/01/20 ☐

Start: ☐ 10/01/08 ☐ Time: ☐ 11:30 ☐

Finish: ☐ 10/15/09 ☐ Time: ☐ 11:30 AM ☐

(Adhere for 12 hours)

☐

150

0.00



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

10/02/09

10-9-7

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Cust Item ID:

Required Date: 9/06/10 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00



Skidtubes

Skidtubes

0.00

Memo

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2
OPEN HOLES TO .297"

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD
END OF TUBE
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

6-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod
A/R ☐ Aluminum Rod ☒ M12507

7-Grind cross bolt welds flush as per Dwg D3274.

8-Counterbore 5/16" x 0.750" deep as per Dwg D3274. Use DT8743 visual aid Jig and deburr.

DP 10-9-15

BB 10-9-16

BE 10-9-16

DP 10-9-24

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Start Qty: 1.00



Cust Item ID:

Required Date: 9/06/10

Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170



Skidtubes

Skidtubes

Skidtubes

Memo

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod ☐ A/Aluminum Rod ☐ 12-Grind cross bolt welds flush as per Dwg D3274. 113-Counter

0.00

0.00

180



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

190



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

h=3.0
L=4.8"

8/10/24

8/10/24

(42)

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Item ID: D206-642-545

Accept

Setup Start

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Stop

Item Name: Skidtube

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Cust Item ID:

Required Date: 9/06/10 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start

QC: Date: SPC (Y/N): Date:

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00	BL10-9-28			①	φ		
	<i>Re-alodine, pressure wash</i>								
	<i>do not acid etch.</i>								
	<i>Memo</i>	0.00							
	START TIME: <i>10:50</i> FINISH TIME: <i>11:20</i>								
	<i>320°</i>								
	<i>M115291.</i>								
210	QC3- Inspect Part Finish	0.00				①	φ		
	<i>Memo</i>	0.00							
220	HAND FINISHING RESOURCE #1	0.00							
	<i>Memo</i>	0.00							
	1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.								
	2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes at 1A/RSikaflex-291								
	<i>Sikaflex expire date: 11/01</i>								

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Item ID: D206-642-545

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube

Start Date: 8/26/10 Start Qty: 1.00



Cust Item ID:

Required Date: 9/06/10 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

230

QC5- Inspect part completeness to step on W/O

0.00



8/26/29



QC

Memo

0.00

Quality Control

Inspect Nut Plate & Inserts

240

HandFinishing

0.00



=1 M 10/09/29

x1 d

HandFinish

Memo

0.00

Hand Finishing

2-Install wearpads & gaskets as per Dwg D3274. 13-Install ring as per Dwg D3274. A/RSikaflex-291 M115114 Sikaflex expire date: 11/01 4-Inspect for foreign objects as per QSI 024 5-Spray inside of tube on both sides of web N/A

250

QC5- Inspect part completeness to step on W/O

0.00



8/26/29



QC

Memo

0.00

Quality Control

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Item ID: D206-642-545

Accept



Setup Start



Revision ID:

Item Name: Skidtube

Stop



Start Date: 8/26/10 Start Qty: 1.00



Cust Item ID:

Required Date: 9/06/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

260



Packaging

Packaging

0.00

Packaging

Memo

Packaging

0.00

270



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

Rev A

10/10/10

10/10/04

MF

10-10-01

Picklist Print

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Work Order ID: 61480

Parent Item: D206-642-545

Parent Item Name: Skidtube



Start Date: 8/26/2010

Required Date: 9/6/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 06-10-06 JLM
 IPP Rev:B Added SS Wearplates & Gaskets 07-02-23 JLM
 IPP Rev:C ECN 1080p 07-12-06 DD verified by:
 IPP Rev:D as per PAR 08-015 08-04-17 DD verified by:ec
 IPP Rev:E 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190 		Manufactured	No			110	Each	74.0000	1	1			
Extrusion Round 3" 206													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				74					
				47575				26					
				59874				48					
D2646 		Manufactured	No			120	Each	72.0000	1	1			
Aft Cap													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP-4				63					
				57332				63					
				FP6				9					
				52663				9					
D3285-1 		Manufactured	No			140	Each	144.0000	1	1			
Cap													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				144					
				52511				74					
				52647				70					

XL BB 10/09/01

HL 10/09/29

XL

BE 10/09/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 61480

Parent Item: D206-642-545

Parent Item Name: Skidtube

Start Date: 8/26/2010

Required Date: 9/6/2010

Start Qty: 1.00

Required Qty: 1.00

D2649 Manufactured No 170 Each 29.0000 12 12



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

29

58545

2

60652

27

B 61496 *12 BE10-9-16

D3282-041 Manufactured No 170 Each 2.0000 1 1



Float Web (206L/407)

Location

Loc Qty

Loc Code

LG

2

59886

2

①

DD 10-9-14

CCR264SS3-3 Purchased No 220 Each 472.0000 2 2



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

472

112314

4

113539

44

113973

424

x2

CR3212-4-03 Purchased No 220 Each 1,912.000 2 2



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

1912

111359

5

112314

2

114436

448

114450

83

114859

1374

x2

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W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Parent Item Name: Skidtube

Start Date: 8/26/2010

Required Date: 9/6/2010

Start Qty: 1.00

Required Qty: 1.00

D3275-1 Manufactured No 220 Each 48.0000 37 37



Crossbolt Spacer

Location Loc Qty Loc Code

LG 48
53453 8
60653 40

D3415-041 Manufactured No 220 Each 58.0000 1 1



Nut Plate

Location Loc Qty Loc Code

ST056 58
33842 58

ALS7-1032-130 Purchased No 240 Each 1,378.000 78 78



Insert

Location Loc Qty Loc Code

FP 861
115079 861
ST282 517
113238 17
115502 500

M114723

37 BE 10/09/10

JH 10/09/29

x1 78

JH 10/09/29

x48

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Work Order ID: 61480

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Start Date: 8/26/2010

Required Date: 9/6/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 240 Each 1,769.000 80 80



BOLT



HL 10109129

Location	Loc Qty	Loc Code
ST303	500	
115438	500	
ST350	1269	
114108	14	
114416	12	
114523	2	
114941	241	
115300	1000	

AN4C5A Purchased No 240 Each 506.0000 1 1



BOLT



HL 10109129

Location	Loc Qty	Loc Code
ST346	506	
110552	11	
112243	495	

AN960C10L NAS1149C0332 Purchased No 240 Each 155.0000 80 80



washer



HL 10109129

Location	Loc Qty	Loc Code
ST245	155	
107534	29	
109545	54	
111548	72	

M115698

HL 10109129

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Start Date: 8/26/2010

Required Date: 9/6/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C416 NAS1149C0463 Purchased No

240

Each

107.0000

1

1



washer



10/09/29

Location

Loc Qty

Loc Code

ST346

107

100993

107

D3413-1

Manufactured No

240

Each

48.0000

1

1



Ring



10/09/29

Location

Loc Qty

Loc Code

ST473

48

51586

1

53446

23

61322

24

D3535-15

Manufactured No

240

Each

20.0000

1

1



Wearshoe



10/09/29

Location

Loc Qty

Loc Code

FP18

20

59236

7

61241

13

D3535-23

Manufactured No

240

Each

7.0000

1

1



Wearshoe



10/09/29

Location

Loc Qty

Loc Code

FP21

7

60864

7

1361830

10/09/29

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Parent Item Name: Skidtube

Start Date: 8/26/2010

Required Date: 9/6/2010



Start Qty: 1.00

Required Qty: 1.00

D3535-35	Manufactured	No	240	Each	9.0000	1	1
							<u>10/09/29</u>
Wearshoe							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP018	9	B60865
60232	9	

x1

D3535-39	Manufactured	No	240	Each	22.0000	1	1
							<u>10/09/29</u>
Wearshoe							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP18	22	
58214	5	
60233	17	

x1

D3536-15	Manufactured	No	240	Each	22.0000	1	1
							<u>10/09/29</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	16	
56055	4	
60875	12	
FP11	6	
59238	6	

y1

D3536-23	Manufactured	No	240	Each	10.0000	1	1
							<u>10/09/29</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP011	10	
60234	10	B61237

x1

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID: 61480

Parent Item: D206-642-545



Parent Item Name: Skidtube

Start Date: 8/26/2010



Required Date: 9/6/2010

Start Qty: 1.00



Required Qty: 1.00

D3536-35	Manufactured	No	240	Each	13.0000	1	1
							<u>21 10/09/29</u>
Gasket							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP012	13	
58683	1	
<u>60235</u>	12	

D3536-39	Manufactured	No	240	Each	18.0000	1	
							<u>21 10/09/29</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP12	18	
58215	4	
<u>58571</u>	14	

D3537-1	Manufactured	No	240	Each	20.0000	9	9
							<u>21 10/09/29</u>
Wearpad							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	1	
55465	1	B61640
FP017	48	
FP17	19	
57713	3	
60491	16	

D3537-3	Manufactured	No	240	Each	10.0000	1	1
							<u>21 10/09/29</u>
Wearpad							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP19	10	B60866
59711	10	

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, August 26, 2010 2:41:45 PM

Page 8

Work Order ID: 61480



Parent Item: D206-642-545



Parent Item Name: Skidtube

Start Date: 8/26/2010

Required Date: 9/6/2010

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

240

Each

931.0000

2

2



Phenolic Washer

10/09/29

Location

Loc Qty

Loc Code

ST077

931

42329

150

52505

781

X2

Thursday, August 26, 2010 2:41:45 PM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

RELEASED

07.02.12

DEO ATTACHED

DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED #	APPROVED #	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY SCALE NTS	
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

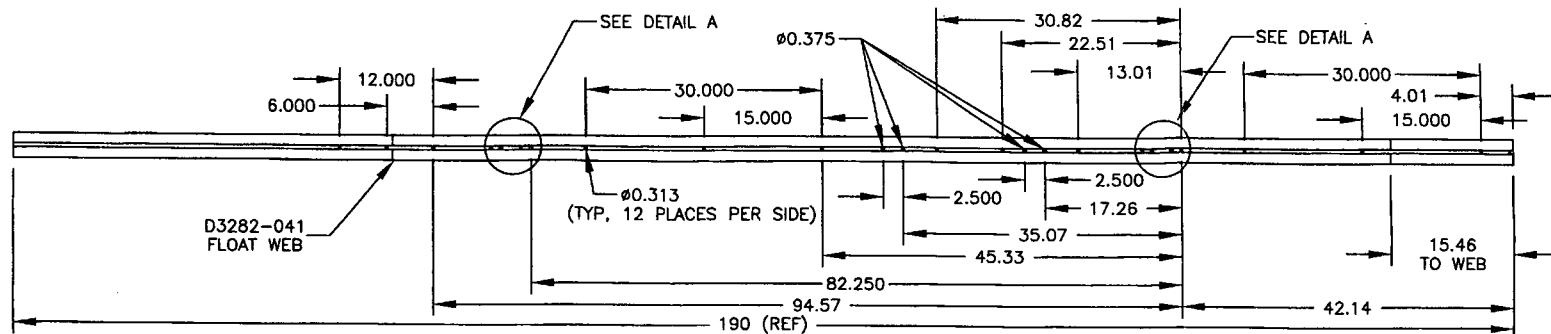
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

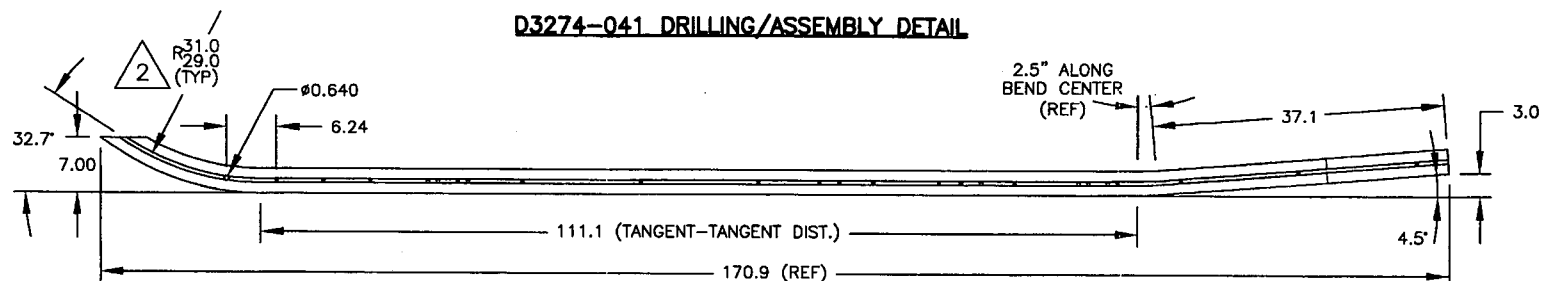
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

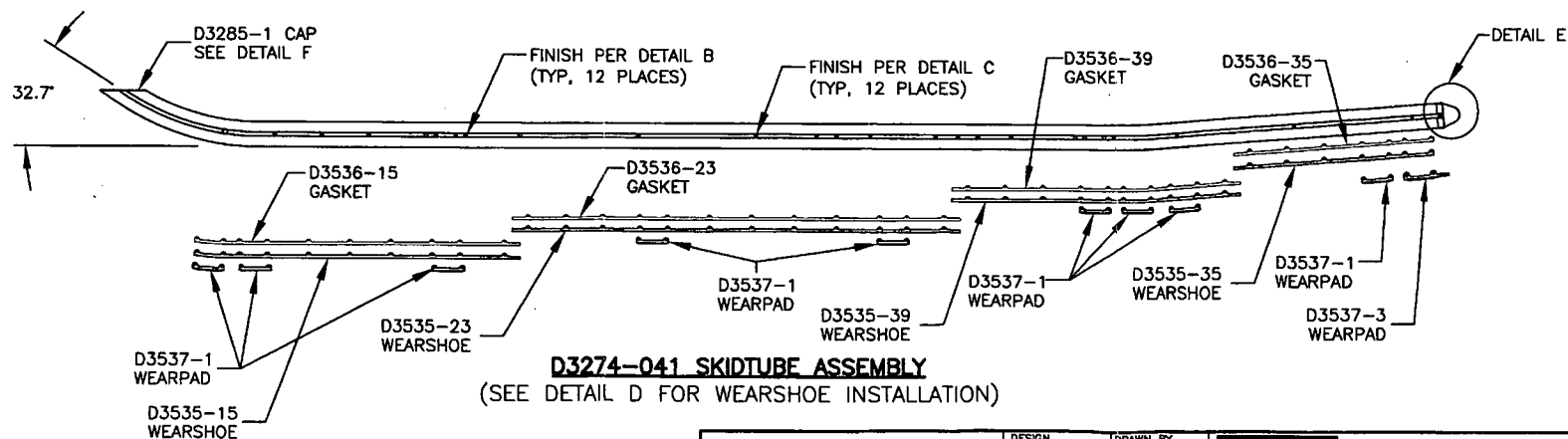
DEO ATTACHED



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY

(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN	CP	DRAWN BY	PH	DART	DART AEROSPACE USA, INC.
CHECKED	#	APPROVED	#	DRAWING NO.	D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D	SHEET 2 OF 4
				SCALE	1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

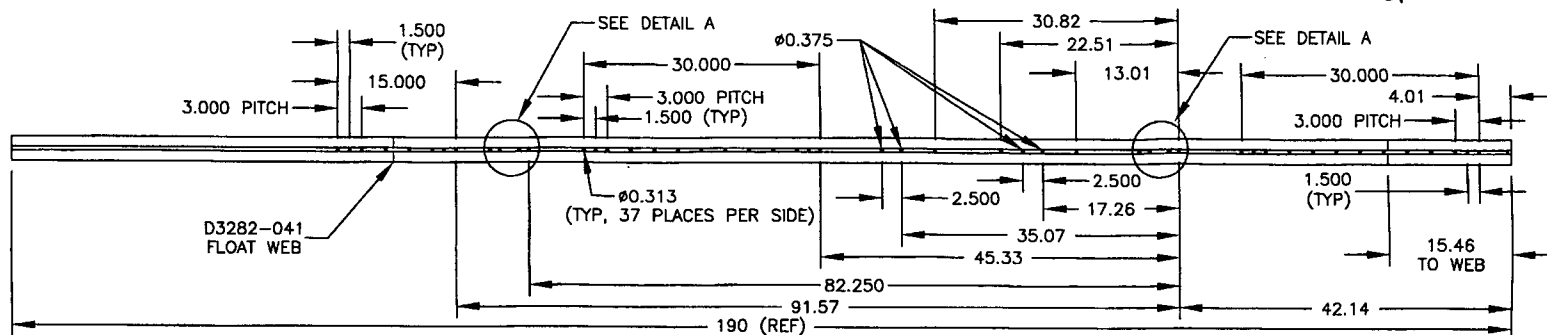
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

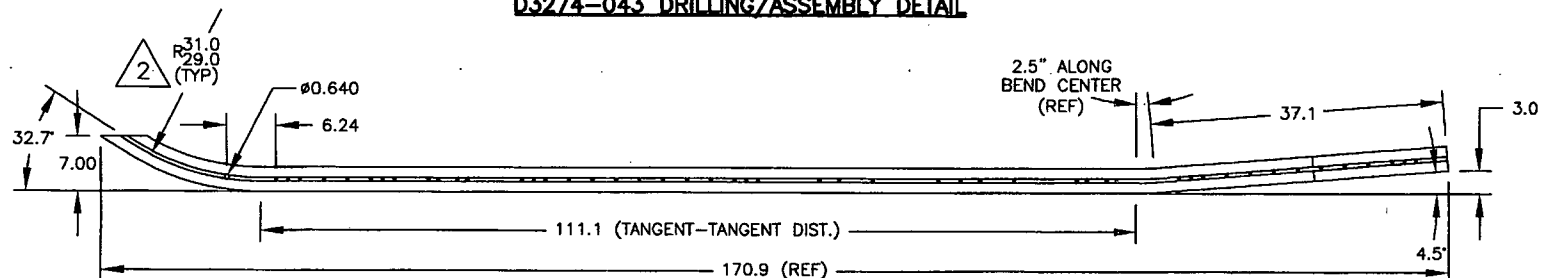
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

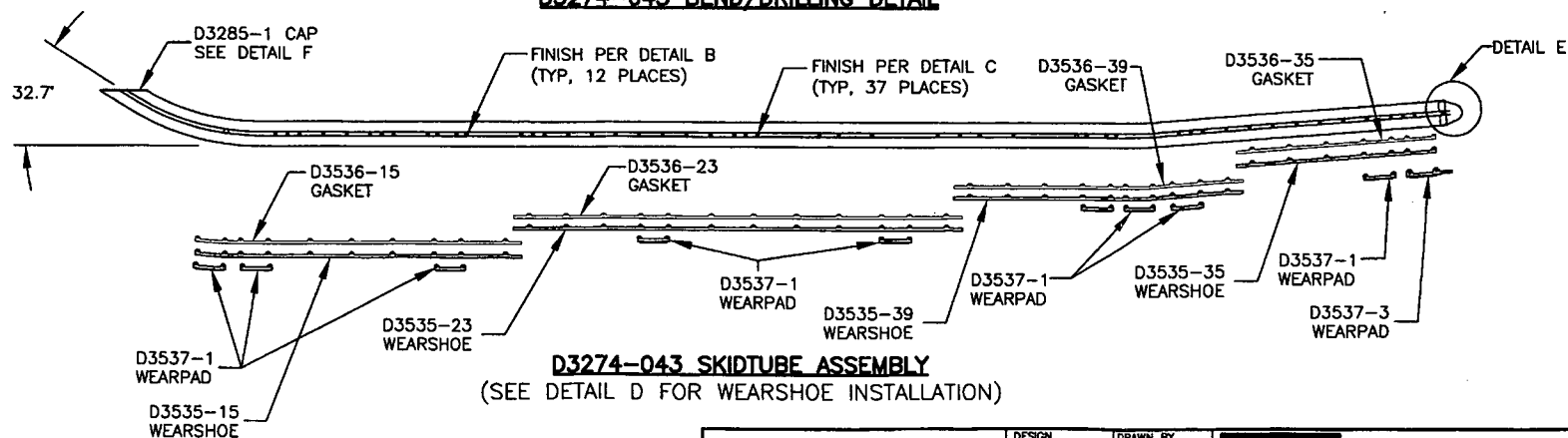
DEO ATTACHED



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN	CP	DRAWN BY	PH	DART	DART AEROSPACE USA, INC.
CHECKED	#	APPROVED	#	D3274	REV. D
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SHEET 3 OF 4	SCALE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

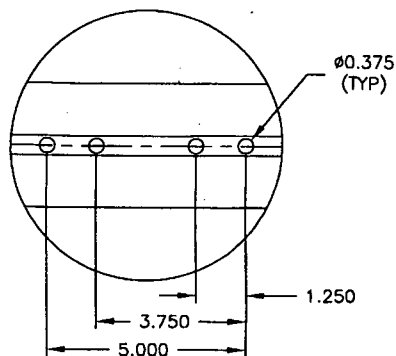
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

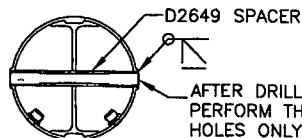
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL A: DRILL DETAIL

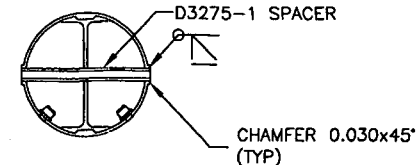


DETAIL B FOR $\phi 0.375$ HOLES ONLY

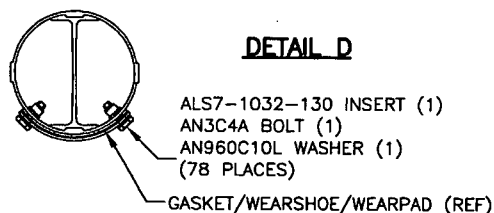


- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\phi 0.375$
HOLES ONLY:
1. CHAMFER HOLE $0.030 \times 45^\circ$
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO $\phi 0.313 \times 0.75$ DEEP

DETAIL C FOR $\phi 0.313$ HOLES ONLY



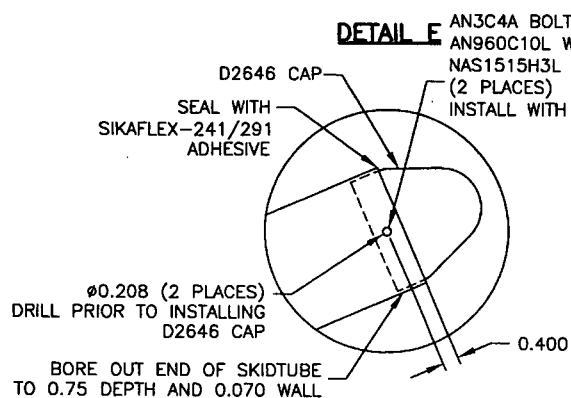
DETAIL D



- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

DETAIL E



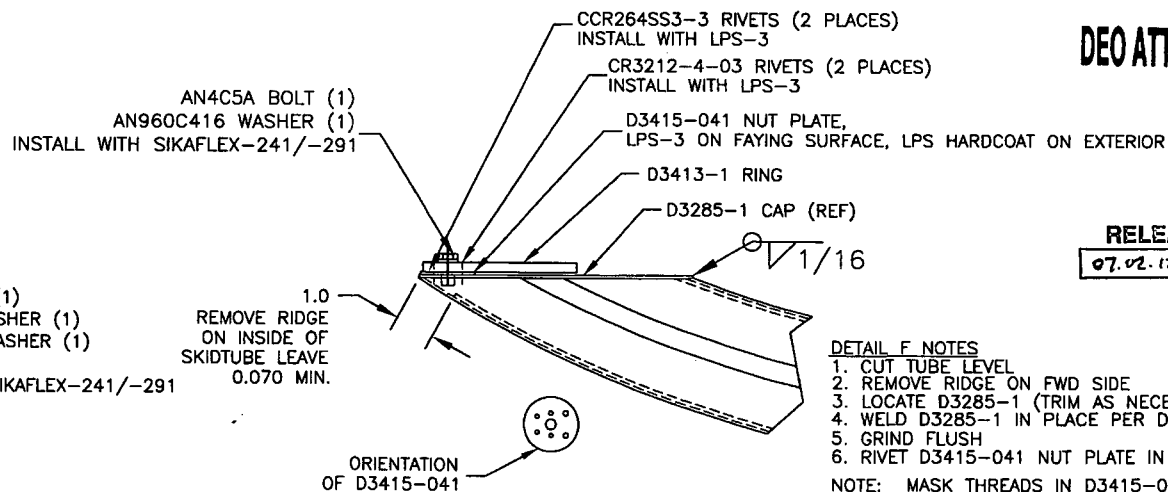
- AN3C4A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/-291

SEAL WITH
SIKAFLEX-241/291
ADHESIVE

$\phi 0.208$ (2 PLACES)
DRILL PRIOR TO INSTALLING
D2646 CAP

BORE OUT END OF SKIDTUBE
TO 0.75 DEPTH AND 0.070 WALL

DETAIL F: END FINISHING DETAIL



CCR264SS3-3 RIVETS (2 PLACES)
INSTALL WITH LPS-3

CR3212-4-03 RIVETS (2 PLACES)
INSTALL WITH LPS-3

D3415-041 NUT PLATE,
LPS-3 ON FAYING SURFACE, LPS HARDCOAT ON EXTERIOR

D3413-1 RING

D3285-1 CAP (REF)

1.0
REMOVE RIDGE
ON INSIDE OF
SKIDTUBE LEAVE
0.070 MIN.

ORIENTATION
OF D3415-041

DEO ATTACHED

RELEASED
07.02.12

DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

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DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, VA	REV. D
CHECKED	#	APPROVED	#	DRAWING NO. D3274	SHEET 4 OF 4
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SCALE	1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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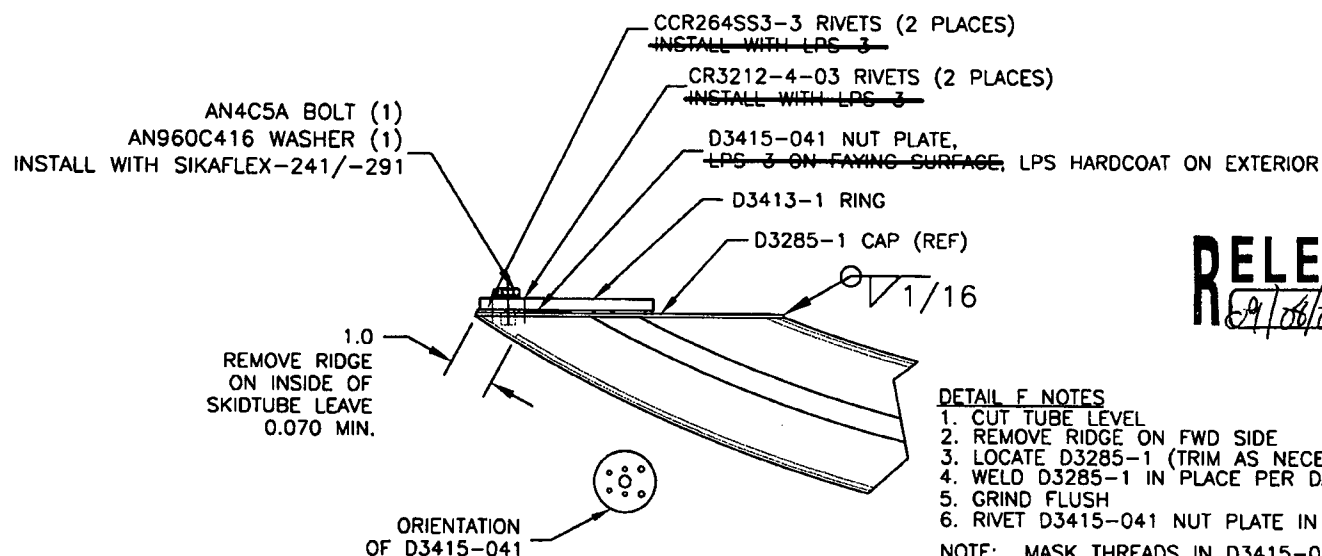
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE 1:1 NTS
DRAWN UP	CHECKED	MFG. APPR.	APPROVED		DE APPR.		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23		DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 237

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Borley Elliott
Job number: 61039
Part number: D206-442-441
Description: 206 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pd Dyl Date of Test Coupon 10.08.19

Welder Borley Elliott Date of Test Coupon 10.08.19

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Work Order ID 61480

September 1, 2010 1:31:47 PM



Page 1

Item ID: D206-642-545

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube

Start Date: 8/26/10 Start Qty: 1.00



Cust Item ID:

Required Date: 9/06/10 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: 

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3274

Rev D

0.00

100



DOCUMENT CONTROL

0.00

DC

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-545 CHG00